



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,893	01/17/2006	Shai Stein	STEIN 10	3440
1444 7590 07/27/2009 BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			EXAMINER ANWAR, MOHAMMAD S	
			ART UNIT 2416	PAPER NUMBER
			MAIL DATE 07/27/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,893

Applicant(s)

STEIN ET AL.

Examiner

MOHAMMAD ANWAR

Art Unit

2416

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-7,9,10,12-17,19-22,24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7,9,10,12-17,19-22,24 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 4/30/09 have been fully considered but they are not persuasive. Please see response below to applicant arguments.

In response to applicant argument, the prior art precludes utilizing packet/frame based discard policy at the VP layer, due to the lack of formal information at the VP layer about the underlying VC layer. Therefore, only a so-called cell based discard policy, having low efficiency, is possible at the VP layer (see Nattkemper et al. mentions VP layer and discarding at the VP layer if it exceeds these limits see column 33 and column 34).

In response to applicant arguments, In any version described in Nattkemper et al., where a two-stage lookup strategy of an incoming cell is mentioned, never both the VP-descriptor and the VC-descriptor are defined together (see column 25 lines 27-31, ABCU card resident CPU maintains a database VC-descriptor and VP-descriptor).

In response to applicant arguments, since Nattkemper et al. does not register combinations of VP, VC parameters in the data base to provide statistical data, he cannot analyze that statistical data (see Nattkemper et al. column 7 line 66 where cell statistics gathering is mentioned, see also column 11 lines 1-3, VCI/VPI are evaluated).

2. All 35 USC 101 rejections are withdrawn.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 6, 7, 9, 12-17, 19-22, 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Nattkemper et al. (U.S. Patent No. 5,999,518).

For claims 1, 22 and 24, a method of handling ATM traffic comprising streams of packets of AAL5 type composed of ATM cells (see column 14 lines 60-62), at a network node at VP-layer (see column 4 lines 35-36), the method comprising: providing a database (see column 21 lines 64-66), monitoring each of said cells incoming the node (see column 4 lines 35-43, column 26 lines 20-24). and determining at least VC-layer and VP-layer parameters of a cell being monitored (see column 4 lines 35-36), processing information on said determined parameters (see column 7 lines 9-11, column 37 lines 34-38), registering the processed information concerning each of said cells in the database(see Figure 6 statistics to CPU), by using the registered information (see column 6 lines 11-16), forming statistical data with respect to at least combinations of the at least VC-layer and VP-layer parameters of the packets being handled at the node, so as to make the

network node, handling the ATM traffic at VP-layer, aware about nature and behavior of various AAL5 streams in a particular VP connection (see column 21 lines 64-66), and analyzing the statistical data (see column 4 lines 38-39), performing packet discard at the VP layer by making decisions on possible discard of the cells being monitored (see Figure 4 (83)) said decision depending on results of analysis of the statistical data, thereby taking into account frequency of appearance in the database, of a combination of VC-layer and VP-layer parameter of a particular cell being monitored (see column 22 lines 1-3, column 38 lines 39-47).

For claim 2, Nattkemper et al. disclose wherein each of said packets belongs to a particular VCC (Virtual Channel Connection) and a particular VPC (Virtual Path Connection) (see column 4 lines 35-38), and wherein each said packet comprises a number of ATM cells, and for each said packet, each of the cells have a same value of VC-index (VCI) and a same value of VP-index (VPI) (see column 28 lines 1-3, column 53 lines 1-2), the method comprises:

determining said VC-layer and VP-layer parameters by determining VPI and VCI values of the cell (see column 53 lines 1-10);

registering the processed information per each of the monitored cells in the database (see column 21 lines 64-66), to allow judging about VCCs in a particular VP connection and thereby enabling awareness of the network node about VCCs at the VP layer and frequency of their appearance in the ATM traffic being handled (see column 11 lines 33-35).

For claim 3, Nattkemper et al. disclose wherein the node has multiple ATM Interfaces, the method comprises providing one or more said databases for respectively serving said a number of the multiple ATM Interfaces (see column 36 lines 60-61).

For claim 6, Nattkemper et al. disclose further comprising monitoring each of the incoming ATM cells in respect of "end of packet" indication and, based on the presence or absence of said indication, complementing the database with a status of the VCC under monitoring to which the cell being registered belongs (see column 45 lines 34-52).

For claim 7, Nattkemper et al. disclose wherein the step of forming the statistical data is performed by building a table arranged for N entries assigned to N different VCCs, wherein each entry registers a number of fields assigned for at least the following purposes: indicating a VPI value, indicating a VCI value, a counter of "own cells", a counter of "other cells", AAL5 packet status (see column 39 lines 1-60).

For claim 9, Nattkemper et al. disclose wherein the step of processing the VC-layer and VP-layer parameters is performed by applying an arbitrary function $f(VPI, VCI) = n$ ($n=1..N$) to values of VPI and VCI of each of the incoming ATM cells, wherein the value n is a natural number between 1 and N and represents the entry number in the database to which the incoming ATM cell is registered (see column 24 lines 4-21).

For claims 12 and 13, Nattkemper et al. disclose wherein the fields "own cells" and "different cells" serve for distinguishing different VCCs which can be mapped to the same entry (see column 32 lines 37-40, column 24 lines 4-21).

For claims 14 and 19, Nattkemper et al. disclose further comprising indicating the status in the statistical database as follows:

Begin Of Packet - where the monitored VCC starts transferring a new packet, in case the previous ATM cell belonging to the VCC under monitoring carried an "End Of Packet" indication (see column 45 lines 44-52); In Packet - where the monitored VCC is in the middle of the AAL5 packet transmission (see column 28 lines 38-39).

For claim 15, Nattkemper et al. disclose further comprising indicating additional status options for informing whether the current VCC is already under a packet discard process; said status options being either PD (partial discard) or FD (full discard) (see column 62 lines 42-52).

For claim 16, Nattkemper et al. disclose detecting a new congestion event in the network while monitoring a cell belonging to a particular virtual channel connection (VCC), based on the results of analysis of statistical data, deciding whether said particular VCC is suitable for discarding, if yes, discarding cells of the VCC according to a selected discard policy, if not, repeating said operation with respect to a new incoming cell (see column 62 lines 42-52 where congestions level are used for packet discard).

For claim 17, Nattkemper et al. disclose wherein the step of analyzing the statistical data in the database comprises checking whether the particular VCC is registered as one of entries of the database:
if the VCC is not registered in the database, making a decision not to discard the

cell (see column 26 lines 45-46) and the VCC is registered in the database, making a decision to discard the cell (see column 24 lines 26-36).

For claim 20, Nattkemper et al. disclose wherein the step of making decision further includes a check whether cells of the particular VCC are already under discard, and if yes, repeating the method with respect to the VCC of the next incoming cell in case the congestion event persists (see column 28 lines 1-16).

For claim 21, Nattkemper et al. disclose further comprising a step of forecasting an expected congestion event, and if said expected event is forecast, a discard decision is made for the incoming VCC which is considered, and performed on the basis of status "begin of packet" and by applying a Full Discard policy (see column 45 lines 44-52, column 62 lines 42-52 where congestions level are used for packet discard).

For claim 25, Nattkemper et al. disclose network node being a Digital Subscriber Line Access Multiplexer (DSLAM) (see column 5 lines 35-36).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nattkemper et al. (U.S. Patent No. 5,999,518) in view of Chiu et al. (U.S. Patent No. 6,597,689).

For claims 5 and 10, Nattkemper et al. disclose the method also comprising monitoring each of incoming cells from the point of that additional parameter (see column 25 lines 64-67), processing the additional parameter together with said parameters (see column 7 lines 9-11) and registering result of the processing in a common database for serving at least a number of the multiple ATM interfaces (see

column 21 lines 64-66). Nattkemper et al. disclose all the subject matter but fails to mention comprising an additional step of indicating a particular ATM Interface for each ATM cell received there-through, by an additional parameter being a unique ATM Interface index (Ifindex). However, Chiu et al. from a similar field of endeavor disclose comprising an additional step of indicating a particular ATM Interface (see column 62 lines 5-8), each ATM cell received there-through (see column 17 lines 13-28), by an additional parameter being a unique ATM Interface index (Ifindex) (see column 80 lines 12-23). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Chiu et al. Ifindex parameter into Nattkemper et al. statistics collection. The method can be implemented in the software table. The motivation of doing this is to identify each port in a node that originates proxy call

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD ANWAR whose telephone number is (571)270-5641. The examiner can normally be reached on Monday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick W. Ferris can be reached on 571-272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MOHAMMAD ANWAR
Examiner
Art Unit 2416

/M. A./
Examiner, Art Unit 2416

Application/Control Number: 10/564,893

Page 11

Art Unit: 2416

/Derrick W Ferris/

Supervisory Patent Examiner, Art Unit 2416